

Brian Esp 01/23/2023

Brian, A few things:

1. Fortran uses COMMON to define global variables: they are pervasive in the nastran code. Later Fortran introduced TYPE statements and Bill made liberal use of them. Personally, I find that MODULEs are a pain and prefer to code in C using STRUCT.

I introduced a COMMON/ HGS / that transferred several of Bill's variables to the new quad4rev1 subroutine. Your team needs to add the MAT properties to that common. With that the routine should determine the element stiffness, kelem. At this point the kelem (or whatever it was called, is returned to the caller in Bill, where Bill uses a procedure I really don't quite understand to create the GLOBAL matrices. You are on your own at this point.

My quad4rev1 reflects the use of nastran-commons whose variables I have replaced with those in HGS. The data structures used in the code I sent you are described in the NASTRAN PROGRAMMERS manual.

2. As to other elements and types of physics: The incompatibilities rather prohibit that approach. Actually there are many good FEA programs out there. I like what Bill has created but it would take 2-3 qualified persons a year or more to bring the code up to a useful state.

I remain available to respond to specific questions from your team. I wish you well!

Best,

Harry